

10. APPENDIX 4

THE DESCRIPTION OF A NEW SPECIES OF *SUNCUS* (SORICIDAE, MAMMALIA) FROM CENTRAL AFRICA

J. C. Kerbis Peterhans & R. Hutterer

Abstract. Although small African *Suncus* (Soricidae, Soricomorpha) are quite rare in collections, their frequencies are starting to increase with the use of pitfall trapping regimes. Here we report on a new species of Afrotropical *Suncus* first documented in Burundi, subsequently in Uganda, and now possibly in the Democratic Republic of Congo.

Key words: *Shrews*, *Soricomorpha*, *Suncus hututsi* sp. nov., *endemic species*, *Albertine Rift*, *Burundi*, *Uganda*, *Democratic Republic of Congo*.

Introduction

African species of small-sized *Suncus* are rare in collections; consequently identifications are difficult. Their small size (defined here as condylo-incisive length less than 15 mm) renders them difficult to collect with traditional traps. With the exception of owl pellet faunas (Meester & Lambrechts 1971, Hutterer & Joger 1982), series are nonexistent. The most recent revision of African *Suncus* only included South Africa records (Meester & Lambrechts 1971). Currently, three taxa of small *Suncus* are recognized (Heim de Balsac & Meester 1971; Hutterer 1993, 2005). One of these, the commensal *Suncus etruscus* (Savi 1822), is readily distinguished by its displaced unicuspid P4 and flat dorsal profile. A second, *Suncus remyi* Brosset, Dubost & Heim de Balsac, 1965, is the only described tropical forest *Suncus*, and known from the type locality in Makokou and Belinga, Gabon (Brosset *et al.* 1965); Monts Doudou, Gabon (Goodman & Hutterer 2004); Minkébé Forest, NE Gabon (Goodman *et al.* 2001); Odzala National Park, Republic of Congo, (Hutterer *et al.* 2001); and the Dzanga-Sangha Forest Reserve, Central African Republic (Ray & Hutterer 1995). The third and most problematic is *Suncus infinitesimus* (Heller 1912). The nominate race is represented by the type specimen from Rumuruti, Laikipia Plateau, Kenya. The form *chriseos* (Kershaw 1921) from southern Africa (reviewed by Meester & Lambrechts 1971) and *ubangiensis* Petter & Chippaux, 1962 described from and represented by two specimens from the Central African Republic are also included within *infinitesimus* (Meester & Lambrechts 1971; Heim de Balsac & Meester 1971; Hutterer 1993, 2005). Other published records of *infinitesimus* outside of southern Africa include Hutterer & Joger (1982) for Cameroon, 20 km N of Banyo. Recently acquired speci-

mens have enabled us to review these latter groups of taxa.

Members of the new species of *Suncus* were first recognized in collections from Kibira NP, Burundi. The tiny landlocked country of Burundi, with a population density of 193 humans per km², is second to neighboring Rwanda as the most densely populated country in Africa. Forest currently occupies approximately 1.5 % (360–413 km²) of Burundi's 25,650 km² (Vedder *et al.* 1992). Despite the environmental degradation effected by such population pressures, the small mammal fauna of Burundi has never been comprehensively described. Over a three year period (1991–1993), the I.N.E.C.N. (Institut National pour l'Environnement et la Conservation de la Nature) and the Peace Corps/U.S.A.I.D. (United States Agency for International Development) Biodiversity Project, joined with the Field Museum of Natural History (Chicago) to document, for the first time, the small mammal and bird fauna of Kibira National Park. Unfortunately, civil unrest caused the termination of the program.

Within Burundi, Kibira National Park is composed of a thin strip of montane forest (1600–2300 m) straddling the Zaire/Nile Crest. With the exception of tiny Bururi Forest (16 km²) in the south, Kibira (379 km²) is the last montane forest remaining in the country. Its width rarely exceeds 10 km and the park has been severed in the middle. The northern sector of the park is continuous with the much larger Nyungwe Forest (Rwanda), the small mammal fauna of which has been studied (Elbl *et al.* 1966, Hutterer *et al.* 1987). Socio-political conflict over the past 16 years continues to stress Kibira NP.

Specimens referable to the new taxon have subsequently been collected in Uganda and possibly also in Bururi Forest, Burundi and in the Democratic

Republic of Congo. We predict that it will also be found in Nyungwe NP (Rwanda) and surveys targeting such small mammals will be initiated there this year. In Uganda, it was first recognized from Bwindi-Impenetrable NP during the course of the 1997 African Tropical Biodiversity Program (ATBP), in an area previously thought to have been thoroughly surveyed (i.e., Rubizha).

Materials and Methods

The new species of *Suncus* was collected in unbaited pitfall traps (see Voss & Emmons 1996, Fig. 7). These consisted of ca. 20 m linear drift fences, with small 2 liter buckets spaced at 2 m intervals (Burundi) and a 50 m linear drift fence, with 4 liter buckets spaced at 5 m intervals at Bwindi-Impenetrable NP (Uganda). In order to quantify pitfall efforts, every bucket counted as 1 pitfall trapnight (PFN). For example, a 20 m drift fence set out for 3 days (11 buckets x 3) was equivalent to 33 pitfall trapnights. All traplines and pitfalls were checked twice daily (ca. 7:00 hrs, 17:00 hrs).

Kibira NP specimens were prepared as skeletons (n = 2), or were preserved in 10 % formalin after removal of the cranium (n = 3). After fixing in formalin for ca. 1 week, fluid-preserved specimens were transferred to 70 % ethanol. Uganda specimens were prepared as fluid-preserved carcasses with skulls removed (n = 4), skulls only (n = 4) and two skins with

skeletons from Bwindi-Impenetrable NP. Embryos and a sample of stomachs were retained in ethanol. Specimens have been deposited at the Field Museum of Natural History, Chicago, IL USA; Makerere University Zoology Museum, Kampala, Uganda; and a paratype at Zoologisches Forschungsmuseum Alexander Koenig, Bonn. One record was identified in the collections of the AMNH.

Standard mammal external measurements were taken in the field and include ear (E) and weight in grams (WT). Hind foot length (HF) includes the claw. Head and body lengths (HB) were derived by subtracting tail length (TL) from Total Length (TO). The percentage of the tail covered by long bristle hairs is referred to as tail pilosity (TP%) and was determined in museum settings. Type specimens of *Suncus i. infinitesimus* (BMNH) and *S. i. ubanguiensis* (MNHN) were measured by the senior author in their respective institutions. Lengths are given in millimeters (mm) and mass in grams (g). Adult status was determined by the fusion of the basisphenoid-occipital suture. Soricid cranial measurements follow Dippenaar (1977): CI (condyloincisive length), BW (bimaxillary width), LIW (least interorbital width), GW (greatest width of braincase), PMH (posterior median height), UTRL (upper tooth row length), M+I (mandible and incisor length), LTR (lower tooth row). Additional measuring points include PGL (postglenoid width), RO (rostrum breadth at the level of the first unicuspid), MH (mandibular height at the coronoid), and U-C (length of anterior teeth from first incisor to last unicuspid, i.e., canine). NOS = Nature of specimen codes: asr = alcoholic carcass with skull removed, ssk = skin, skull and skeleton, sko = skeleton and skull only.

Reference material examined includes specimens from AMNH (American Museum of Natural History, New York), BMNH (British Museum of Natural History, London), FMNH (Field Museum of Natural History, Chicago), LACM (Los Angeles County Museum, Los Angeles), MNHN (Muséum National d'Histoire Naturelle, Paris), MCZ (Museum of Comparative Zoology, Harvard University, Cambridge, MA), MUZM (Makerere University Zoology Museum, Kampala, Uganda), UFD (Uganda Forest Department, currently housed at FMNH), BJH (Bruce J. Hayward, specimens at FMNH), ZFMK (Zoologisches Forschungsmuseum Alexander Koenig, Bonn). Other abbreviations include BINP (Bwindi-Impenetrable National Park), FR (Forest Reserve),

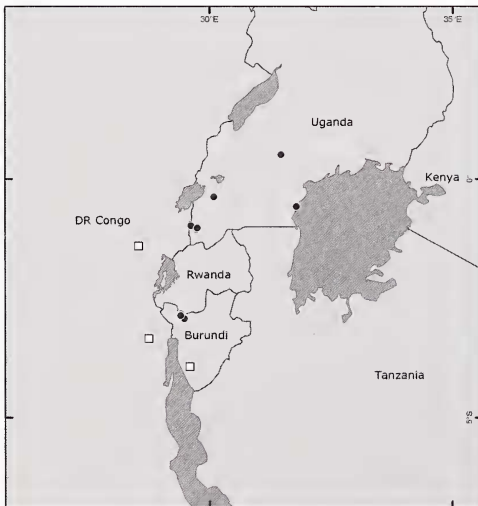


FIG. 1. Distribution of *Suncus bututsi* (●), *Suncus ?bututsi* (□)

TABLE 1. External measurements of *Suncus hututsi*.

museum	number	country	taxon	locality	NOS	WT	TO	HB	TL	TP%	HF	E
FMNH	148272	Burundi	hututsi	Kibira NP	asr	2.3	84	55	29	51	8.5	5
FMNH	148273	Burundi	hututsi	Kibira NP	asr	2.3	73	45	28	45	8.35	5
FMNH	148274	Burundi	hututsi	Kibira NP	sko	2.4	83	51	32	na	9	6
FMNH	148942	Burundi	hututsi	Kibira NP	asr	2.4	83	50	33	62	8.3	6
FMNH	148943	Burundi	hututsi	Kibira NP	sko	2.3	90	58	32	na	7.5	6.5
FMNH	157831	Uganda	hututsi	BINP	asr	2	87	57	30	47	9	7
FMNH	160183	Uganda	hututsi	BINP	ssk	1.7	82	49	33	47	8	4
FMNH	160184	Uganda	hututsi	BINP	ssk	1.8	84	54	30	48	8	5
FMNH	160185	Uganda	hututsi	BINP	asr	2.1	87	55	32	57	8.5	6
AMNH	269677	Uganda	hututsi	Kalinzu FR	asr	1.5	84	54	30	50	8	4
MUMZ	3300	Uganda	hututsi	Mujuzi FR	asr				28	48	8	
FMNH	155925	Burundi	?hututsi	Bururi F	asr	2.5	83	56	27	59	8.9	5
FMNH	203735	DRC	?hututsi	Itombwe F	asr	2.6	85	56	29	63	8	7
FMNH	mwwf 45	DRC	?hututsi	Nakaponda	asr	2.4	80	50	30	57	9	5

TABLE 2. Cranio-dental measurements of *Suncus hututsi*.

museum	number	CI	BW	LIW	GW	PGL	PMH	UTRL	M+I	LTR	MH
FMNH	148272	13.56	3.97	3.08	6.24	4.4	3.31	5.35	7.91	5.05	2.9
FMNH	148273	13.84	4.17	3.12	6.41	4.33	3.17	5.53	7.81	5.22	3
FMNH	148274	13.79	3.98	3.21	6.42	4.31	3.32	5.55	7.91	5.12	3.08
FMNH	148942		3.83	2.95	6.13	4.48	3.1		8.21	5.19	3.11
FMNH	148943	13.33	4.16	3.23	6.25	4.51	3.41	5.44	7.97	5.28	3.03
FMNH	157831	13.9	4.11	2.98	6.18	4.07	3.25	5.65	8.14	5.16	2.97
FMNH	160183		4.02	3.1		4.4		5.3	7.76	4.7	2.85
FMNH	160184				6.05	4.1	3.36	5.2	7.67	4.8	2.92
FMNH	160185	13.88	4.19	3.21	6.41	4.6	3.14	5.55	8.1	5.2	3.12
AMNH	269677	13.5	3.97	3.19	6.03	4.3	3.31	5.5	7.81	5.11	3.0
MUMZ	3278	13.49	4.04	2.89	6.2	4.29	3.28	5.62	7.79	5.16	2.91
MUMZ	3300		4.11		6.6	4.49		5.55	8.14	5.06	3.18
MUMZ	3401		3.91	3.19	6.25	4		5.57			3.11
MUMZ	3402	14	3.86	3.19				5.5	8.1	4.96	3.04
MUMZ	3404	14.17	4.14	3.22	6.25	4.56	3.28	5.7	8.16	5.09	3.19
FMNH	155925	14.32	4.07	3.19	6.49	4.46	3.27	5.87	8.6	5.25	3.15
FMNH	203735	14.24	4.11	3.08	6.24	4.27	3.39	5.81	8.39	5.32	3.08
FMNH	mwwf45	14.13	4.2	3.2	6.42	4.32	3.17	5.73	8.37	5.27	3.2

TABLE 3. Diagnostic metrical differences among small Afrotropical *Suncus*.

	TL	TP%	MH	CI	UTRL
<i>S. hututsi</i>	27-33	45-65%	2.9-3.2	13.3-14.3	5.2-5.9
<i>S. i. infinitesimus</i>	24-26	90-100%	3.2-3.9	14.4-14.5	5.9-6.1
<i>S. i. ubangiensis</i>	26	63-75%	3.5-3.6	14.1-14.4	6.0-6.3
<i>S. remyi</i>	17-21	36%	3.3-3.6	13.1-13.7	5.7-6.2

DRC (Democratic Republic of Congo, Kinshasa). Authors and years of description of names of shrews not given in the text can be found in Allen (1939) and Hutterer (1993, 2005).

Results

Suncus hututsi n. sp. Kerbis Peterhans & Hutterer
 Holotype. FMNH 148272, carcass in alcohol, skull extracted, adult female in good condition. Specimen collected on 23 October, 1991, Burundi, Bubanza Province, Kubutare Colline, Kibira National Park, Ruhondo Forest Block (02°56'S, 29°29'E, 2040 m), by L. Davenport; original number 161; deposited in the Field Museum of Natural History, Chicago. Depicted in Figs. 2-6.

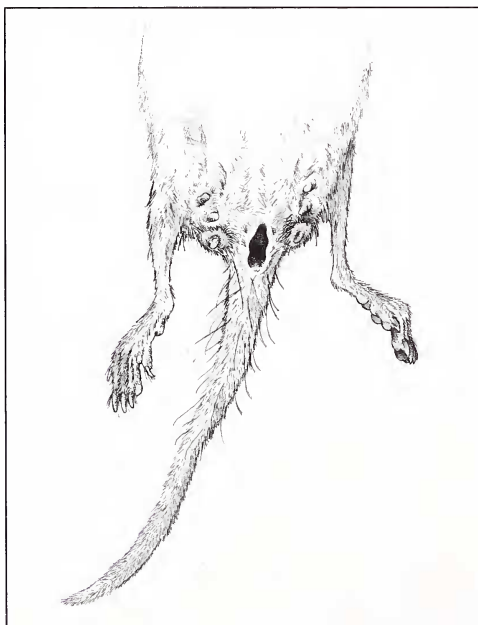


FIG. 2. Abdomen and tail of *Suncus hututsi* (type, FMNH 148272).

Paratypes. Four further specimens from Kibira NP, Burundi (2 alcoholic carcasses, and 2 complete skeletons, all with skulls): FMNH 148273 ♂ (LD 45), same locality and collector; FMNH 148274 ♂ (LD 806), Cibitoke Province, Kibira National Park, Ndora Forest Block, Kwogofe Hill, 13 April 1992; FMNH 148942 ♀ (JCK 2601) and 148943 ♂ (JCK 2624), Cibitoke Province, Kibira National Park, Ndora Forest Block, Giserama Hill, collected by J. C. Kerbis Peterhans on 1 August 1991.

Referred Specimens. Uganda (4 alcoholic carcasses with skulls extracted, 2 complete skins with skulls and skeletons and 4 skulls only); Bwindi-Impenetrable National Park: FMNH 160183 ♂, 160184 ♀ (BJH 9949, BJH 9951), Ruhizha, 11 & 12 February, 1997; AMNH 269677 (collector D.P. Lunde 337) Enkombe Sawmill (1480 m), ca. 20 km N of Ishaka, Kalinzu Forest Reserve, 09 July, 1996; UFD 3278, UFD 3300, Mujuzi Forest Reserve, 7 Sept, 1993, collector D. Mijumbi; UFD 3401, UFD 3402, UFD 3404, Kasana-Kasambya Forest Reserve 15 Nov. 1993, collector D. Mijumbi.

Referred specimens (with reservation, *Suncus ?hututsi*). Burundi (alcoholic carcass with skull extracted): Ruhinga Hill, 2170 m, Bururi Forest (collector J.L. Udelhoven 45), 13 March 1993, FMNH 155925 ♂; DR Congo (alcoholic carcass with skulls extracted), Lusasa, Itombwe Forest (collector T.C. Demos 2405 ♂) 29 July 2008, FMNH 203735; Bushema-Lutunguru Forest, Nakaponda-Katunguru (collector B. Ndara Ruziga) 03 March 2008, MWWF 45 ♂.

Diagnosis. A dark forest species smaller than *Suncus infinitesimus* and slightly larger than *Suncus remyi*. Dorsal color blackish gray, barely lighter below. Tail long, with bristle-hairs scattered around ca. 50 % of its length. Lateral glands of male marked by circles of dark hair. Height of coronoid process very reduced. Very short upper tooth row. Maxilla broad. M³ very large and well-developed. Second upper unicuspid large, sub-equal to third in size.

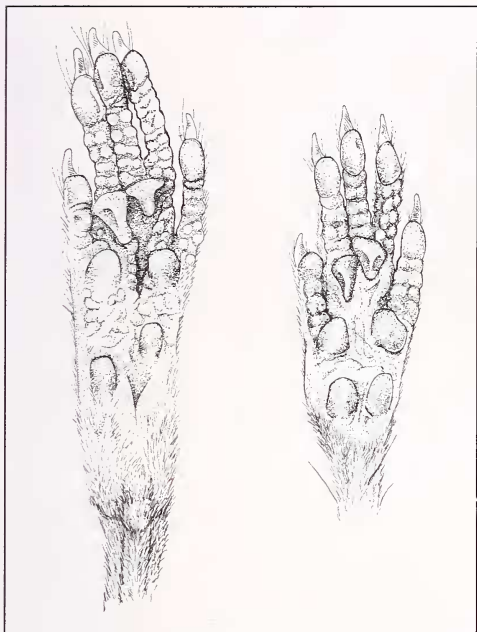


FIG. 3. Pes and manus of *Suncus hutusi* (type, FMNH 148272).

Description. Tail long (28–33 mm), dark brown above and below and covered with long bristle hairs between 45–65 % of its length (Fig. 2). Tail densely haired to tip. Color above is gray-black with dark brown tips, bases grayish. Belly more gray, the colors of back and belly blending gradually at the flanks. Chin is the same color as venter. Pes with six plantar tubercles (Fig. 3). The proximal 25 % of the feet are furred, to the level of the last plantar tubercle. Dorsomedial aspect of pes more light in color due to being less densely haired. Forepaws light (sparsely haired), especially sparsely haired at wrist. Manus with 6 palmar tubercles (Fig. 3). Female with three evenly spaced inguinal teats per side (Fig. 2). Last pair lightly circled with ring of hair. Lateral glands in male imperceptibly marked by small patch of dark (i.e. densely haired) brown hairs. Feet dark due to dense hair; forepaws lighter due to less dense hair. Head dorsoventrally compressed with vibrissae up to 11 mm in length (Fig. 4). External measurements are presented in Table 1.

Lower incisor without notches. Coronoid process of mandible low. M3 large and well developed, approaching 'N-shape' (stage 4 of Freeman 1981; C66 p.16). Maxilla broad. Upper tooth row short. Second

unicuspid large, sub equal to the third in size. Fourth upper unicuspid reduced but still 1/3 the size of third. Braincase of moderate breadth. Upper tooth row of moderate length. Parastyle of P4 not projecting anteriorly, not obscuring 4th unicuspid in lateral view. Cranio-dental measurements are presented in Table 2.

Variation. With hesitation, we tentatively refer larger specimens including one from Burundi and two from DR Congo to the new taxon. The large specimen from Bururi Forest (FMNH 155925; depicted in Fig. 5 and Fig. 6), southern Burundi, is light brownish above and below, in contrast to all specimens discussed herein. In similarity with *S. infinitesimus*, it displays a sinuous maxillary profile (Fig. 5) as well as a larger 4th unicuspid and a projecting parastyle on the P4 (Fig. 6). The specimens from the DR Congo (FMNH 203735, MWWF 45) are larger in most cranio-dental dimensions but combine a larger 3rd unicuspid with a smaller 4th. MWWF 45 has a projecting parastyle on the P4 while FMNH 203735 has a longer (thicker) M3 and a much larger basisphenoid fenestra (Gasc 1963). Additional material will be required to determine if their variations are taxonomically significant.

Comparisons

Suncus remyi

Suncus hutusi has a much longer tail (28–33 mm vs. 17–21 mm) with proportionately more bristle-hairs (45–65 % vs. 36 %) compared to *S. remyi* (Table 3). *Suncus hutusi* from Burundi is similar to *S. remyi* in condylo-incisive length and in its short and broad rostrum (Fig. 5). In both taxa, the maxilla is swollen, yielding a straight line from its widest point to the

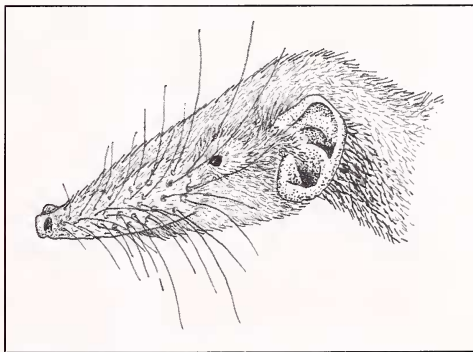


FIG. 4. Head of *Suncus hutusi* (type, FMNH 148272).

TABLE 4. Communities of shrews and golden moles associated with captures of *Suncus hututsi*.

Species	Mubwindi (Uganda)	Ruhija (Uganda)	Buhoma (Uganda)	Ruhondo (Burundi)	Ruyyirame (Burundi)	Ndora (Burundi)
<i>Chrysochloris stuhlmanni</i>					1	
<i>Crocidura dolichura</i>			1	7 (2)		2 (1)
<i>Crocidura lanosa</i>						2
<i>Crocidura maurisca</i>	1 (1)					
<i>Crocidura niobe</i>						1
<i>Crocidura olivieri</i> ssp.		2	8	3	9 (3)	19 (1)
<i>Crocidura stenocephala</i>	1 (1)	1*				
<i>Myosorex babaulti</i>					2	
<i>Paracrocidura maxima</i>		2				
<i>Ruwenzorisorex suncoides</i>		1*				1
<i>Scutisorex somereni</i>			1			1
<i>Suncus hututsi</i>	1 (1)	2 (2)	1 (1)	2 (2) ^T	2 (2)	1 (1)
<i>Suncus megalura</i>	1 (1)				1	
<i>Sylvisorex johnstoni</i>					8 (6)	4
<i>Sylvisorex lunaris ruandae</i>	2 (2)	9		2	7 (3)	2
<i>Sylvisorex vulcanorum</i>		25		10 (3)	9 (2)	13 (2)

3 (2) = Three (3) specimens collected at that general collecting camp with two (2) coming from the same trapline and habitat.

* captured while based at same camp but trapline located in a separate wet valley bottom

^T includes type specimen

tip of the rostrum (Brosset *et al.* 1965, Fig 13A). However, in *S. hututsi*, the upper tooth rows are shorter (5.2–5.9 mm vs. 5.7–6.2 mm) and the coronoid height is much lower (2.9–3.2 mm vs. 3.3–3.6

mm, Table 2 & Table 3). The braincase is less circular and more elongate in *S. hututsi* (Fig. 5). In *S. hututsi*, the second unicuspid is less reduced compared to the third, the two being sub-equal in size whereas in *S.*

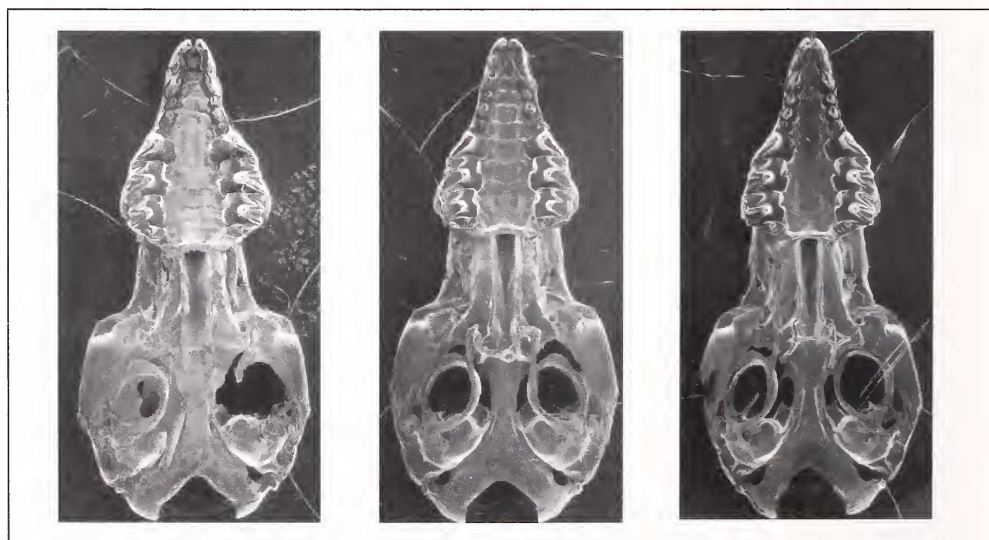


FIG. 5. Skulls of *Suncus remyi* (left, R22036), *Suncus hututsi* (center, type FMNH 148272), *Suncus ?hututsi* (right, FMNH 155925).

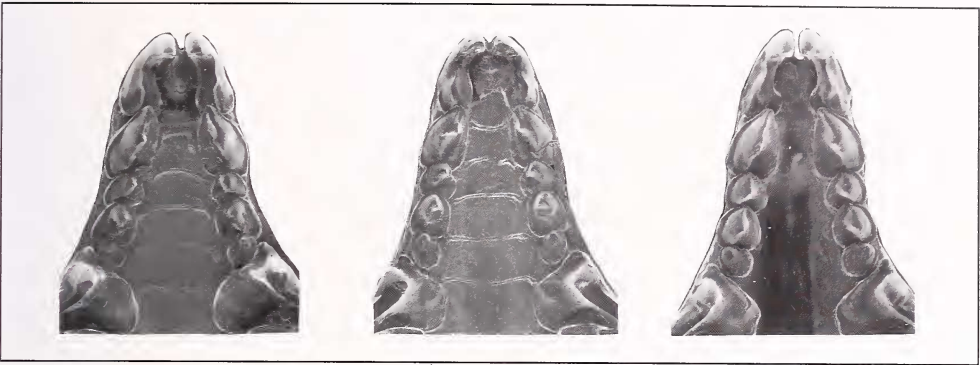


FIG. 6. Anterior maxillary dentition of *Suncus remyi* (left, R22036), *Suncus hututsi* (center, type FMNH 148272), *Suncus ?hututsi* (right, FMNH 155925).

remyi the third is 2–3 times larger (Fig. 6; see also Brosset *et al.* 1965, p. 173). The 4 unicuspid is larger in *S. hututsi* and not deflected medially as in *S. remyi* (Fig. 6). M³ very narrow from front to back in *S. hututsi* vs. more broad in *S. remyi*. Diagnostic differences with small Afrotropical *Suncus*, including *Suncus remyi*, are presented in Table 3.

Suncus infinitesimus

Suncus hututsi is distinguished from *S. infinitesimus* by its dark gray/black dorsum that contrasts the latter's broccoli brown pelage. Its belly is dark and devoid of the white-tipped slate hairs of *Suncus infinitesimus*. Tail longer (28–33 mm, avg 31 mm, n = 5 vs. 24–26 mm; Table 3). Tail covered with long bristle hairs for 45–65 % of its length, instead of 90–100 % in *S. infinitesimus*. Hands and feet darker in color

due to being more densely haired. Lateral glands are dark brown not white as in *infinitesimus*. Braincase more hexagonal in *S. hututsi* vs the more elongate and rectangular outline of *S. infinitesimus*. These braincase proportions are reflected in the following ratio: greatest width/condylo-incisive length proportionately broader in *S. hututsi* compared to *S. infinitesimus* (0.44–0.48 vs 0.42–0.435). The outline of the maxilla is more broad and straight in *S. hututsi* vs. the more 'sinuous' profile of *S. infinitesimus* (Brosset *et al.* 1965, p 172). Upper tooth row shorter in *S. hututsi* (5.3–5.9 mm) vs. *S. infinitesimus* (5.9–6.4 mm) especially due to shorter incisor through canine (4th unicuspid). Proportions of the second unicuspid similar to *S. infinitesimus*. First maxillary incisor is more lightly built and more procumbent (due to a more concave rostrum) than in *S. infinitesimus*.

TABLE 5. Gazetteer.

Locality	Country	Latitude	Longitude	Elev (m)
Ndora, Kibira NP	Burundi	2° 50' S	29° 25' E	2220
Ruhondo, Kibira NP	Burundi	2° 56' S	29° 29' E	2040
Ruyirame, Kibira NP	Burundi	2° 52' S	29° 24' E	2100
Ruhinga Hill, Bururi FR	Burundi	3° 56' S	29° 36' E	2220
Lusasa, Itombwe Forest	DR Congo	3° 20' S	28° 45' E	2050
Nakaponda, Lutunguru-Katunguru	DR Congo	1° 25' S	28° 32' E	1185
Buhoma, BINP	Uganda	0° 59' S	29° 37' E	1500
Enkombe Sawmill, Kalinzu FR.	Uganda	0° 23' S	30° 5' E	1480
Kasana Kasambya FR	Uganda	0° 30' N	31° 28' E	1250
Mubwindi Swamp, BINP	Uganda	1° 4' S	29° 44' E	2070
Mujuzi FR	Uganda	0° 35' S	31° 47' E	1170
Ruhija, BINP	Uganda	1° 2' S	29° 45' E	2350

Height of the mandibular coronoid process (Table 3) much lower in *S. hututsi* (2.9–3.2 mm) than in *S. infinitesimus* (3.2–3.9 mm).

Distribution. Currently known from the Albertine Rift including the mountain tops of Kibira National Park, NW Burundi (2100–2220 m), Bwindi-Impenetrable National Park (1500 m–2350 m) and mid elevation forests in Uganda (Kalinzu FR, Mujuzi FR and Kasana Kasambya FR, 1170–1480 m). Additional records possibly include Bururi Forest, Burundi (2220 m), Itombwe Forest, DR Congo (2050 m), and Nakaponda, Lutungulu-Katungulu, DR Congo (1185 m).

Etymology. Named for the major ethnic groups in the central African country of Burundi in which it was first discovered. The epithet is taken as a noun in apposition.

Ecological remarks. *Suncus hututsi* is only the second species of forest-dwelling *Suncus* known in Africa (along with *S. renyi*). Activity is generally nocturnal as most Burundi records (5/6) were collected during morning rounds (ca. 7:30 am). The documented exception was FMNH 148943 that was collected in the late afternoon rounds. All specimens were collected from pitfall buckets with varying lengths of barriers. At BINP, Uganda a male and female were collected on consecutive days from the same pitfall line. In Burundi, a male and female were collected from the same pitfall line on the same day, the female being collected in the morning and the male in the afternoon. One adult female collected on February 12 near Ruhiza (Bwindi-Impenetrable NP) had large teats; no embryos were recorded.

Burundi habitats. Specimens of *Suncus hututsi* from Burundi were collected at three locations in the northern sector of Kibira National Park, Burundi. The first collecting site (August, 1991) was within 1 km of the Ruyirame Gite maintained for hikers by the INECN. The Gite was used by the survey team as a base camp and is located on the forest edge. Two specimens of *Suncus hututsi* were collected (FMNH 148942–148943) in well-drained closed-canopy montane forest at an elevation of 2100 m. This pitfall line consisted of 24 buckets placed 1 m apart. One specimen of *Sylvisorex johnstoni* was collected in the same bucket as *Suncus hututsi*. The next two specimens from Burundi (FMNH 148272 and 148273) were collected in the Ruhondo sector with one coming from closed forest (15 buckets, 1 m apart) and the second from a pitfall line (20 buckets x 1 m) ad-

acent and parallel to Irabiro Creek, with moderate to heavy canopy. The final Burundi specimen (FMNH 148274), from the Ndora zone, was recovered from upland bamboo (*Arundinaria alpina*) with mixed hardwoods (*Macaranga neomildbraediana*, *Symphonia globulifera*, and *Tabernaemontana johnstonii*) and forbs, sedges, grasses, *Begonia* sp. and *Chlorophyllum* sp. An additional specimen, that may be referable to *S. hututsi*, was collected in southern Burundi in the Bururi Forest Reserve in secondary forest at 2220 m.

Uganda habitats. At BINP (Uganda), two specimens (FMNH 160183 & 160184) were collected amidst *Dombeya joatizen* along a well-drained forested slope below the Institute of Tropical Forest Conservation research station in Ruhija. Another was collected on the periphery of Mubwindi Swamp at 2070 m under a thick canopy of *Loconia* sp. (FMNH 157831), while the fourth was collected near Buhoma (FMNH 160185) at 1500 m on a dry slope under 2 m tall ferns and shrubs (*Loconia* sp.). AMNH 269677 was collected in dense forest undergrowth in Kalinzu FR. Referred specimens include UFD 3278 and UFD 3300 from Mujuzi, a Forest Reserve adjacent to Lake Victoria bisected by the Mujuzi River. In Kasana Kasambya, a small forest (51 km²) along the Mubende-Mityana Rd, three additional specimens were collected (UFD 3401, 3402, 3404). This is generally dry country forest on the upland slopes, with only 29/135 tree and shrub species being forest dependent (Kityo, personal comm.), but there are more closed forest habitats in gallery contexts.

DR Congo habitats. One specimen collected by T.C. Demos in primary montane forest in a pitfall trap, adjacent to giant ferns. The ground was damp with sparse ground cover (< 50 %) and a thin layer of leaf litter. The second (MWWF 45) was collected in Bushema-Lutunguru Forest, Nakaponda, Lutungulu/Katungulu at an elevation of 1185 m.

Ectoparasites (B. O'Connor, in lit.):

FMNH 157831. Ixodidae larva: on face (1); posterior ventral (1); Laelapidae in wrap wash (1) that could possibly be a contaminant; Trombiculidae on tail (1); Glycyphagidae dn's numerous at bases of hairs, on face, and anterior dorsal.

FMNH 148942. Laelapidae in fur dorsally (3); Trombiculidae scattered over dorsum (a few), ear pinna surface (1); Glycyphagidae dn's on hairs anterior to mid dorsal.

FMNH 148272, 148273, 160185: Examined but no parasites found.

Summary and Discussion

A new species of *Suncus*, easily diagnosed from its congeners, is described from mid elevation and highland forests of central Africa. Its discovery highlights several important aspects in the documentation and conservation of biodiversity. It can be added to the long list of taxa endemic to the Albertine Rift forests (Kerbis Peterhans *et al.* 1998, Kityo *et al.* 2003). A mouse (*Praomys degruaffi*) was recently described with a similar distribution (Van der Straeten & Kerbis Peterhans 1999). The known range of *Suncus hututsi* is extremely small, in forest pockets that extend 400 km east/west by 500 km north/south. *Suncus hututsi* was first discovered in Kibira NP (Burundi), a biodiversity hotspot as reflected in its Soricid diversity. Six additional genera of shrews have been documented in this tiny and threatened park (Table 4). Five of these genera are associated with *Suncus hututsi* while a sixth genus (*Paracrocidura*, species = *maxima*) was collected at a separate locality in Kibira NP (Gitenge River Swamp, 2°57'S, 29°30'E, 2200 m). No other protected area in the world has yielded 7 genera of Soricidae.

Clearly the socio-economic problems of the region must be resolved in order for conservation efforts to have a chance. Kibira NP has been overrun with 'rebels' who burn fuel wood, mine for minerals and harvest forest products. Kibira NP is extremely vulnerable as it is composed of a very narrow strip of the Zaire/Nile crest. It has already been severed in the middle through human activities. That such a distinct taxon remained undiscovered is a function of this shrews' small size and the fact that pitfall trapping is a relatively recent technique in the survey of very small mammals. Previously, the Ruhiza area of BINP had been extensively surveyed but never with pitfall trapping; Kibira NP had never been systematically surveyed prior to these efforts. These results show that many mammalian taxa probably remain to be discovered, a situation that can only be changed with comprehensive and wide-ranging surveys.

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Congo, and B. Ndara Ruziga and J. Mwanga for Bushema-Lutunguru Forest. The World Wide Fund for Nature supported this later survey in eastern DR Congo. L. Davenport was responsible for all logistical details and field support in Burundi and collected three *Suncus hututsi*, including the type. Support in Burundi was provided by the U.S. Peace Corps/USAID Biological Diversity Project (Mr. P. Trenchard, former director). D. Summers (Division of Insects, Field Museum) identified stomach contents. For permission to work in Kibira National Park, Burundi we gratefully acknowledge the Institut National pour l'Environnement et la Conservation de la Nature (Mr. A. Nyokindi & Dr. L. Ntahuga, Directeurs General). Financial support from the Ellen Thorne Smith Fund and Marshall Field III Fund of The Field Museum partially covered field expenses in Burundi. The work of RH in Chicago was supported by the Robert O. Bass Fund of the Field Museum and the Museum Alexander Koenig, Bonn. The field work of D. Lunde was supported by the AMNH; E. Sarmiento provided logistical support. The work of JCKP in Chicago was partially supported by the W. and J. Street Fund and while a post-doctoral associate of CEEB, Field Museum; later support was provided by The Barbara Brown Fund. Ugandan specimens from Bwindi-Impenetrable NP were collected under the auspices of a John D. and Catherine T. MacArthur Foundation award (JCKP, PI). Participants in the African Tropical Biodiversity Program, particularly E. Tibenda, collected some of the BINP specimens under consideration here. S. Jennings (Director, Institute of Tropical Forest Conservation) and M. Grey provided critical assistance and logistical support during the Ugandan surveys and training programs at BINP (K. Musana serving as the capable chief warden). D. Mjumbi of Uganda Forest Department survey teams, collected the *Suncus hututsi* from Kasana and Mujuzi Forests in Uganda. These Ugandan surveys were coordinated by P. Howard, with funding from the European Union. B. O'Connor (University of Michigan) identified the ectoparasites. Dr. K. Howell (University of Dar es Salaam) and Dr. D. Reed (USNM) provided unpublished data and specimens of *Suncus infinetisimus* from Tanzania. We thank R. Kityo, Curator, Makerere Museum of Zoology for access to specimens in his care, far-reaching support, and supplementary information. SEM photos by B. Strack (FMNH). S. O. Bober prepared the distribution map. A. LeCesne provided digital imaging expertise and is responsible for the ink drawings of the type specimen.

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11. APPENDIX 5

GAZETTEER

Specific 1	Supplement*	Province	Country	Lat°	Lat'	N/S	long'	long	E/W	Elev.	Ref.
Acholi	former District	Northern	Uganda	3	0	N	32	30	E		1
Ajeruk	Ajeluk, Ajeruku	Eastern	Uganda	1	30	N	33	50	E	1095	2
Ajumani	Adjumani	Nile	Uganda	3	22	N	31	47	E	761	1
Akisim, Mt	Alekilek, nr	Eastern	Uganda	2	7	N	34	12	E	1140	1
Albert, Lake	east of	Western	Uganda	1	52	N	31	25	E	650	4
Amiel		Northern	Uganda	2	58	N	33	27	E	1137	1
Amudat		Karamoja	Uganda	1	58	N	34	57	E	1223	2
Amuria		Eastern	Uganda	2	1	N	33	38	E	1155	1
Apoka	Opoka	Karamoja	Uganda	3	44	N	33	46	E	1243	2
Arapoo		Eastern	Uganda	1	25	N	33	15	E	1025	1
Arua	Arua District	Nile	Uganda	3	1	N	30	55	E	1195	1
Avakubi			DR Congo	1	18	N	27	35	E	900	5
Awack	Awach	Northern	Uganda	2	39	N	33	27	E	998	2
Awere		Northern	Uganda	2	30	N	32	43	E	1052	1
Bafwabaka			DR Congo	2	10	N	27	39	E	600	5
Balegi	see Kabalega (Ka Balegi)		Uganda								
Biso	Bisu	Western	Uganda	1	45	N	31	25	E	969	2
Bokora		Karamoja	Uganda	2	25	N	34	25	E	1190	2
Bombo	20 kms N Kampala	North Buganda	Uganda	0	35	N	32	32	E	1151	1
Bubeke, Island		South Buganda	Uganda	0	20	S	32	40	E	1131	2
Budadiri	Budadira, Budadin Camp (MENP)	Eastern	Uganda	1	11	N	34	21	E	1355	2
Buddu	former county	South Buganda	Uganda	0	25	S	31	40	E		1,22
Budo		Central	Uganda	0	15	N	32	29	E	1217	1
Budongo Forest	Budongo FR	Western	Uganda	1	45	N	31	36	E	1265	2
Bufamira Island	Bufumira	South Buganda	Uganda	0	21	S	32	24	E	1132	2
Bufumbiro Mts	Bufumbira, Mfumbiro (MGNP)	Southern	Uganda	1	22	S	29	39	E		2
Bugabo	Nabugabo, Lake	South Buganda	Uganda	0	22	S	31	53	E	1210	2
Bugabo	SE of Entebbe	Central	Uganda	0	5	N	32	34	E	1140	9
Bugaia Island	Ugaya	North Buganda	Uganda	0	3	N	33	16	E	1186	1
Bugala Island		South Buganda	Uganda	0	24	S	32	10	E	1196	2
Bugembe		Busoga	Uganda	0	29	N	33	14	E	1328	1
Bugishu Dist	Bugisu	Eastern	Uganda	1	0	N	34	20	E		1
Bugoma FR		Western	Uganda	1	15	N	31	0	E	1065	2
Bugoma	North end of Bugala I	South Buganda	Uganda	0	17	S	32	5	E		34
Bugoye		Western	Uganda	0	17	N	30	7	E	1460	2
Buhivu		Eastern	Uganda	1	8	N	34	33	E	3850	6
Buhoma	(BINP)	Southern	Uganda	0	59	S	29	37	E	1575	3
Buhunga	Mihunga (RMNP)	Western	Uganda	0	22	N	30	3	E	1829	2
Buhuru,											
Mt Elgon	Buhugu?	Eastern	Uganda	1	12	N	34	18	E		21
Bujongolo	Bujongo (RMNP)	Western	Uganda	0	21	N	29	55	E	3810	12
Bujuku Hut	(RMNP)	Western	Uganda	0	23	N	29	53	E	3960	3
Bukakata		South Buganda	Uganda	0	18	S	32	2	E	1132	1
Bukalasa		North Buganda	Uganda	0	43	N	32	30	E	1109	1
Bukasa Island		South Buganda	Uganda	0	23	S	32	31	E	1188	2
Bukwe		Western	Uganda	1	45	N	31	45	E		2
Bulago		Eastern	Uganda	1	15	N	34	21	E	1640	1
Bulamagi		North Buganda	Uganda	0	26	N	33	7	E	1183	1
Buligi Circuit	(MFNP)	Northern	Uganda	2	16	N	31	32	E	690	1
Buloba		Central	Uganda	0	20	N	32	29	E	1218	1

Specific 1	Supplement*	Province	Country	Lat °	Lat''	N/S	long'	long	E/W	Elev.	Ref.
Buluganya	Bulugeni?										
	Bugisu Dist	Eastern	Uganda	1	13	N	34	23	E	1845	1,21
Bumasifwa		Eastern	Uganda	1	11	N	34	21	E	1388	1
Bundibugyo	Bundibujio	Western	Uganda	0	42	N	30	4	E	1088	2
Bundimusaba	Bundimusembe (Bwamba FR)	Western	Uganda	0	43	N	30	5	E	914	7
Bunyoni, Lake		Southern	Uganda	1	17	S	29	55	E	1649	1
Bunyoro	former District	Western	Uganda	1	40	N	31	30	E	1223	1
Burumba		Southern	Uganda	1	0	S	30	50	E	1579	2
Bushenyi		Southern	Uganda	0	32	S	30	11	E	1569	1
Busia		Eastern	Uganda	0	28	N	34	5	E	1218	2
Busingiro		Western	Uganda	1	44	N	31	28	E	1065	2
Busoga	Busuga										
Forest-South	(S Busoga FR)	Busoga	Uganda	0	14	N	33	32	E	1138	8
Busu	Bussu, 4 kms NW of Namukuma	North Buganda	Uganda	0	11	N	32	56	E		33
Bussi I	Busi I	Central	Uganda	0	2	N	32	20	E	1167	1
Butandiga	Butandika	Eastern	Uganda	1	12	N	34	22	E	1743	1
Butanuka		Western	Uganda	0	32	N	30	12	E		20
Butiaba		Western	Uganda	1	49	N	31	19	E	617	2
Butiti	Butili	Western	Uganda	0	39	N	30	32	E	1374	2
Buvuma Island	Buvumu	North Buganda	Uganda	0	14	N	33	18	E	1150	1
Bwamba Forest	(Bwamba FR)	Western	Uganda	0	48	N	30	6	E	1000	2
Bwambara,											
8 kms n	(Kigezi GR)	Southern	Uganda	0	33	S	29	52	E	1031	16b
Bwentale Camp,											
1 km se	(Kigezi GR)	Southern	Uganda	0	33	S	29	52	E	1062	16b
Bwindi Forest	Impenetrable, Kayonza (BINP)	Southern	Uganda	1	2	S	29	49	E		2
Byumba	(BINP)	Southern	Uganda	0	56	S	29	42	E	1540	3
Calamari	Chalamari, 30 mi E Torit		Sudan								19
Chagwe	see Mabira		Uganda								
Crater Track	(QENP)	Western	Uganda	0	5	S	29	57	E	850	25
Debasien Mts	Kadam	Karamoja	Uganda	1	45	N	34	42	E	2041	1
Demba		Southern	Uganda	0	49	S	30	33	E		4
Dufile		Nile	Uganda	3	34	N	31	56	E	627	1
Dungilia River	near Kyarumba, Dungulilia	Western	Uganda	0	7	N	29	57	E	1220	1
Dura River	(KFNP)	Western	Uganda	0	8	N	30	17	E	1250	10
Dwaji Island	Lwaji	North Buganda	Uganda	0	0	N	32	55	E	1132	1
Echuya Forest	Chuya (Echuya FR)	Southern	Uganda	1	15	S	29	49	E	2380	3
Edward, Lake	Rutanzige	Southern	Uganda	0	26	S	29	47	E	913	est
Elgon, Mount	(MENP)	Eastern	Uganda	1	8	N	34	33	E		1
Enkombe	Kalinzu FR,										
Saw Mill	20 km N Ishaka	Southern	Uganda	0	23	S	30	5.2	E	1480	16c
Entebbe	Port Alice	Central	Uganda	0	3	N	32	28	E	1132	2
Entebbe,	(ca. outskirts of Kyabi?)	Central	Uganda	0	3	N	31	34	E	1130	1
Fort Portal	Kabarole	Western	Uganda	0	40	N	30	18	E	1524	2
Fort Portal,											
40 kms ese	(KFNP)	Western	Uganda	0	29	N	30	37	E		11
George, Lake (northeast of)		Western	Uganda	0	15	N	30	15	E	1206	11
Gitenge River	(Kibira NP)		Burundi	3	0	S	29	31	E	2200	3
Gondokoro	"Uganda"		Sudan	4	54	N	31	40	E		5
Greeki R.	Greek	Eastern	Uganda	1	36	N	34	20	E	1218	2
Gulu		Northern	Uganda	2	47	N	32	18	E	1083	2

Specific 1	Supplement*	Province	Country	Lat °	Lat "	N/S	long'	long	E/W	Elev.	Ref.
Hakibale	? Harubale	Western	Uganda	0	46	N	30	24	E	1492	1
Hakitengya		Western	Uganda	0	45	N	30	5	E	830	2
Harugale	Harugali?	Western	Uganda	0	41	N	30	4	E	877	1
Hoima		Western	Uganda	1	25	N	31	21	E	1124	2
Hoima,	ca. outskirts										
32 kms nw	of Bwijanga?	Western	Uganda	1	32	N	31	35	E	1180	1
Hoima, 5 kms e		Western	Uganda	1	25	N	31	24	E		11
Humia	Humia R?, Humya (Bwamba FR)	Western	Uganda	0	46	N	30	2	E	701	2
Ibanda		Southern	Uganda	0	8	S	30	29	E	1535	1
Ibanda Rockshelter	(RMNP)	Western	Uganda	0	17	N	29	53	E	3600	12
Iganga	Igang	Busoga	Uganda	0	37	N	33	29	E	1143	1
Impenetrable	Bwindi,										
Forest	Kayonza (BINP)	Southern	Uganda	1	5	S	29	49	E		2
Ingezi		Southern	Uganda	1	0	S	29	50	E		2
Irangi		DR Congo	1	54	S	28	27	E	900	5	
Irene Lake	Elnine (RMNP)	Western	Uganda	0	23	N	29	52	E	4500	12,13
Iriru		Eastern	Uganda	2	6	N	34	12	E	1178	2
Ishasha River	Kashasha (BINP)	Southern	Uganda	0	28	S	29	39	E		1
Ishasha Rd,											
0.5 km S	Kigezi GR	Southern	Uganda	0	30	S	29	46	E	1000	16
Ishasha River @											
Hihizu R.	Sassa R (BINP)	Southern	Uganda	0	56	S	29	44	E		14
Ishasha, 5 kms ne	(Kigezi GR)	Southern	Uganda	0	41	S	29	40	E	1062	16b
Itama Mine	Ithama, Itame (BINP)	Southern	Uganda	0	57	S	29	42	E	1615	7
Itwara Forest	(Itwara FR)	Western	Uganda	0	48	N	30	28	E		1
Jinja		Busoga	Uganda	0	27	N	33	12	E	1200	2
John Mate Camp	(RMNP)	Western	Uganda	0	23	N	29	56	E	3370	3
Jubiya		South Buganda	Uganda	0	15	S	31	58	E		1
Ka balegi	see Kabalega = MFNP	Western	Uganda	2	15	N	31	50	E		1
Kaabong		Karamoja	Uganda	3	30	N	34	9	E	1488	2
Kabale		Southern	Uganda	1	15	S	29	59	E	2175	1
Kabalega Falls	Paraa,										
N.P.	Balegi (MFNP)	Northern	Uganda	2	15	N	31	35	E	691	2
Kabamba Rock											
Shelter	(RMNP)	Western	Uganda	0	21	N	29	55	E	3505	12
Kabanda	near Tonia	Western	Uganda	1	31	N	30	58	E	617	36
Kabanyolo	Kabanyola,										
	Kabanyiro?	Central	Uganda	0	27	N	32	36	E	1132	2
Kabarole	Fort Portal	Western	Uganda	0	40	N	30	18	E	1523	2
Kabatoro	Kabatora	Western	Uganda	0	8	S	29	55	E	845	1
Kabei Cave		Eastern	Uganda	1	19	N	34	43	E	2000	14
Kabeti	Kabiti	Southern	Uganda	0	16	S	29	45	E		9
Kaboyo		South Buganda	Uganda	0	21	S	31	34	E	1229	1
Kabula		South Buganda	Uganda	0	22	S	31	10	E	1426	2
Kabulamuliro	Kabulamulero	North Buganda	Uganda	0	42	N	32	13	E	1144	2
Kabwangasi		Eastern	Uganda	1	8	N	34	7	E	1166	1
Kaganbah	Kagambah	Southern	Uganda	1	0	S	30	15	E	1600	2
Kahunge		Western	Uganda	0	20	N	30	27	E	1308	1
Kaina Mine	nr Mbarara	Southern	Uganda	0	51	S	30	10	E		15
Kajansi		Central	Uganda	0	12	N	32	33	E	1176	2
Kajula, Mt.	Kajulia?, hill just S of Hoima	Western	Uganda	1	25	N	31	21	E		14
Kakindu		Busoga	Uganda	0	56	N	32	59	E	1057	1
Kakoba	Kikoba, 'Ankole'	Southern	Uganda	0	33	S	30	9	E		34
Kakomongole	Kakumongole,										
	Nakomogoli	Karamoja	Uganda	1	54	N	34	38	E		1
Kakumiro		Western	Uganda	0	47	N	31	19	E	1338	1

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Kalinzu Forest	(Kalinzu FR)	Southern	Uganda	0	22	S	30	7	E	1517	2
Kalongi			DR Congo	0	20	N	29	49	E	2134	17
Kama Island	Kaina	Busoga	Uganda	0	9	S	33	54	E	1132	2
Kamamboga	see Kyambogo	Central	Uganda	0	23	N	32	35	E		9, 14
Kampala		Central	Uganda	0	19	N	32	35	E	1197	2
Kamuli		Busoga	Uganda	0	57	N	33	7	E	1115	1
Kamwokya		Central	Uganda	0	20	N	32	35	E		16a
Kanaba		Southern	Uganda	1	14	S	29	46	E	2002	2
Kanungu		Southern	Uganda	0	54	S	29	47	E	1743	1
Kanyanya?	Kayanja?		Uganda								?
Kanyawara	Kibale Forest Station (KFNP)	Western	Uganda	0	36	N	30	21	E	1500	10
Kapchorwa	Sabei camp, Savi, Save	Eastern	Uganda	1	24	N	34	27	E	2419	1
Karamoja	Karamoja, central	Karamoja	Uganda	2	45	N	34	15	E		1
Karongo		Western	Uganda	1	41	N	31	30	E	1265	1
Kartoushi			DR Congo	0	44	N	29	34	E	1000	5
Kasana-											
Kasambya F.R.		North Buganda	Uganda	0	30	N	31	24	E	1250	35
Kasenyi		North Buganda	Uganda	0	33	N	31	26	E	1270	36
Kasese		Western	Uganda	0	10	N	30	5	E	1734	1
Kashasha River	Ishasha (BINP)	Southern	Uganda	1	2	S	29	36	E		1
Kashoya-Kitomi	Kasyoha-Kitomi										
FR	FR	Southern	Uganda	0	15	S	30	15	E	1281	1
Kasiba		North Buganda	Uganda	0	40	N	31	28	E		9, 37
Kasindi	see Masindi?	Western	Uganda								
Kasokero Cave		South Buganda	Uganda	0	21	S	31	58	E	1133	1
Katahuleko Creek			DR Congo	0	20	N	29	48	E	2134	3
Katalemwa	Katalmura, 12 mi N Kampala	Central	Uganda	0	30	N	32	35	E		14, 34
Katera	Katere? (Sango Bay FR)	South Buganda	Uganda	0	55	S	31	39	E	1218	1
Katwe	(QENP)	Western	Uganda	0	8	S	29	52	E	770	1
Kawanda Agricultural Station		Central	Uganda	0	25	N	32	32	E		18
Kayanja		South Buganda	Uganda	0	18	S	31	53	E		39
Kayonza Forest	northern sector (BINP)	Southern	Uganda	0	56	S	29	42	E	1525	1
Kayunga, nr		North Buganda	Uganda	0	41	N	32	55	E		17
Kazinga Forest and hill		Southern	Uganda	0	13	S	29	53	E	920	1
Kei, Mt	(Mt Kei FR)	Nile	Uganda	3	35	N	31	5	E	1336	1
Kenya, nw			Uganda	4	45	N	35	36	E		19
Kiangami	8 mi E of Fort Portal	Western	Uganda	0	40	N	30	24	E		9, 37
Kibale Forest	Mpanga, Kabala (KFNP)	Western	Uganda	0	33	N	30	24	E	1400	2
Kibandana	Kibandama	Southern	Uganda	1	6	S	29	52	E		9
Kibande Forest	20 mi N of Hoima	Western	Uganda	1	44	N	31	21	E		32
Kichwamba	(BMNH)	Southern	Uganda	0	14	S	30	6	E	1210	2
Kichwamba	(AMNH)	Western	Uganda	0	43	N	30	12	E		20
Kidepo NP		Karamoja	Uganda	3	45	N	33	38	E		8
Kidirandi-Lunga	Kidilande, Lango?	Northern	Uganda	2	3	N	32	23	E	1037	1
Kiduha		Southern	Uganda	1	15	S	29	41	E	2000	2
Kigezi		Southern	Uganda	1	0	S	29	45	E		1
Kigezi Game Reserve	(Kigezi GR)	Southern	Uganda	0	30	S	29	50	E		1

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Kigezi High Areas		Southern	Uganda								
Kigumba		Western	Uganda	1	49	N	32	0	E	1066	1
Kijura, nr	Kidura	Western	Uganda	0	49	N	30	25	E	1449	1
Kikorongo		Western	Uganda	0	0	N	30	0	E	927	1
Kikorongo, Lake	Kikarongo (QENP)	Western	Uganda	0	1	S	30	1	E	930	1
Kilembe Mine, above	(RMNP)	Western	Uganda	0	12	N	30	0	E		1
Kilyama, DRC	"Kiriama, Semilki Valley "Uganda"	DR Congo	Uganda	0	59	N	30	3	E		20
Kinyala		Nile	Uganda	3	38	N	31	43	E		1
Kinyala Estate	14 mi w Masindi (BMNH)	Western	Uganda	1	41	N	31	32	E	1262	21
Kiriama	"Uganda", see Kilyama"		DR Congo								
Kiriba	"Uganda"	Sudan	Uganda	4	52	N	31	40	E		19
Kisanga			DR Congo	0	15	N	29	43	E	1100	5
Kisimbiri		North Buganda	Uganda	0	24	N	32	29	E	1204	2
Kisoro	Kisolo, Gisoro	Southern	Uganda	1	17	S	29	41	E	1995	1
Kisubi		Central	Uganda	0	7	N	32	32	E	1141	1
Kitahulira	"Kita Melira"	Southern	Uganda	0	59	S	29	41	E	1585	1, 21
Kitandara Lakes	(RMNP)	Western	Uganda	0	21	N	29	53	E	4115	3
Kitgum		Northern	Uganda	3	17	N	32	53	E	889	2
Kitoba		Western	Uganda	1	31	N	31	21	E	1106	1
Kitobo Island		South Buganda	Uganda	0	15	S	32	26	E	1132	1
Kiuulu	?Kiumu	Central	Uganda	0	10	N	32	26	E		1
Kiuulu	?Kiyoolu, ?Kiulwe Point	Central	Uganda	0	6	N	32	35	E	1134	1
Koba (in error), 14	Lake Albert, see Kitoba	Western	Uganda	1	31	N	31	21	E	1106	1,27
Kokanjero Mt	Nkokonjeru, Kokannjero	Eastern	Uganda	1	5	N	34	21	E		2
Kome Island		North Buganda	Uganda	0	6	S	32	45	E	1132	2
Kotido		Karamoja	Uganda	3	1	N	34	6	E	1215	2
Kumba		Southern	Uganda	1	8	S	29	54	E	1818	2
Kwania Lake		Northern	Uganda	1	45	N	32	45	E		2
Kwapur Cave, nr Binyin	Kwapa, Sebei Dist	Eastern	Uganda	1	25	N	34	32	E		1,21
Kwera	Ekwera	Northern	Uganda	1	49	N	32	59	E	1030	1
Kyabasala	Kyabazala, Kyazabala	Western	Uganda	1	4	N	30	59	E	1074	1
Kyabombo	? Kyombya, Toro	Western	Uganda	0	31	N	30	13	E		2
Kyagwe, island off of	Buvuma I?	North Buganda	Uganda	0	14	N	33	18	E		1
Kyambura Game Reserve	(Chambura GR)	Southern	Uganda	0	7	S	30	4	E		1
Kyema Cave		Eastern	Uganda	1	23	N	34	23	E		1
Kyambogo	Kyembogo Farm, 'near Kampala'	Central	Uganda	0	19	N	32	35	E	1201	21
Kyetume	nr Kampala'	Central	Uganda	0	37	N	32	40	E		1
Kyoga, Lake			Uganda	1	30	N	33	0	E	1030	1
Kyoha/Mubuku R., confl. of	(RMNP)	Western	Uganda	0	22	N	30	2	E	1890	3
Lamogi		Northern	Uganda	2	50	N	32	10	E	1078	1
Lango	former District	Northern	Uganda	2	10	N	33	0	E		1
Limaiba Island	Maiba, Limaiba	South Buganda	Uganda	0	19	S	32	28	E	1132	1
Lira		Northern	Uganda	2	15	N	32	54	E	1072	1
Lodwar			Kenya	3	7	N	35	36	E	477	5
Lokomarinyang			Sudan	5	2	N	35	35	E		19

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Lolui Island		Busoga	Uganda	0	7	S	33	42	E	1200	1
Lomunga		Nile	Uganda	3	25	N	31	17	E	911	1
Lonyili Mt	Longili	Karamoja	Uganda	3	43	N	33	36	E	2200	2
Lopodet	Lopedot?	Karamoja	Uganda	2	8	N	34	48	E		1
Lorengikipi		Karamoja	Uganda	2	20	N	33	51	E		2
Lotome	Lotomu, Latoma	Karamoja	Uganda	2	24	N	34	31	E	1231	2
Loyoro		Karamoja	Uganda	3	21	N	34	16	E	1472	1
Lubwa's	ca 17 kms. E of Jinja	Busoga	Uganda	0	22	N	33	23	E	1132	22,23
Lugala		Busoga	Uganda	0	12	N	33	54	E	1132	1
Luhiza	Luhizha, Ruhija (BINP)	Southern	Uganda	1	2	S	29	46	E	2360	1
Lunyo	Entebbe penninsula forest	Central	Uganda	0	8	N	32	32	E	1170	24
Lutoba	Lutobo?	Southern	Uganda	1	9	S	30	8	E	1846	1
Lwangosia		Busoga	Uganda	0	18	N	33	53	E	1211	1
Lwankima	Mabira Forest Station (Mabira FR)	North Buganda	Uganda	0	30	N	33	0	E		2
Lwiro Falls, nr Mabira	Chagwe, Kyugwe (Mabira FR)	North Buganda	Uganda	0	30	N	33	0	E	1161	2
Madi, West		Nile	Uganda	3	30	N	31	35	E		1
Magamoto	Sempaya Hot Springs?	Western	Uganda	0	51	N	30	11	E	1185	15
Mahoma, Lake	(RMNP)	Western	Uganda	0	21	N	29	58	E	2960	3
Mahoma/Mubu- ku R., confl. of	(RMNP)	Western	Uganda	0	22	N	29	60	E	2100	3
Maiba Island	Limaiba	South Buganda	Uganda	0	19	S	32	28	E	1134	1
Main Track	(QENP)	Western	Uganda	0	9	S	29	54	E	975	25
Makerere	University	Central	Uganda	0	20	N	32	34	E		1
Malabigambo FR	Tero, (Sango Bay FR)	South Buganda	Uganda	0	57	S	31	33	E	1229	2
Malukhu, nr Mbale	Bugishu Dist	Eastern	Uganda	1	5	N	34	10	E		1,21
Maramagambo Forest, South	(QENP)	Southern	Uganda	0	30	S	29	55	E	1092	16b
Maramagambo FR	(QENP)	Southern	Uganda	0	33	S	29	53	E	1065	1
Masaka		South Buganda	Uganda	0	20	S	31	44	E	1287	2
Masindi		Western	Uganda	1	41	N	31	43	E	1222	2
Mayanja	(Mayanja FR)	Central	Uganda	0	20	N	32	24	E	1230	2
Mbale		Eastern	Uganda	1	4	N	34	11	E	1155	2
Mbanga Forest	Mpanga, 17 mi NW Entebbe (Mbanga FR)	Central	Uganda	0	11	N	32	16	E	1181	2
Mbarara		Southern	Uganda	0	37	S	30	39	E	1372	2
Mburo Lake	(Lake Mburo NP)	Southern	Uganda	0	40	S	30	56	E	1287	1
Mbwindi	Bwindi (BINP)	Southern	Uganda	1	2	S	29	45	E		3
Medje		DR Congo		2	25	N	27	18	E	800	5
Mengo	old Kampala	Central	Uganda	0	17	N	32	35	E		2
Metu		Nile	Uganda	3	38	N	31	48	E	948	1
Mgahinga, Mt	Gahinga (MGNP)	Southern	Uganda	1	24	S	29	38	E		2
Mgahinga/Mu- havura Mts	Gahinga (MGNP)	Southern	Uganda	1	23	S	29	39	E	2980	3
Mihunga	Bihunga (RMNP)	Western	Uganda	0	22	N	30	3	E	2042	2
Mitiana	Mityana, Mitiyana	North Buganda	Uganda	0	24	N	32	3	E	1217	1
Mobuto Sese											
Seko, Lake	Albert, Lake	Western	Uganda							619	
Moffat's Island	nr Entebbe'	Central	Uganda								?
Mokia	Muhokya R	Western	Uganda	0	6	N	30	4	E	1036	2
Mongiro		Western	Uganda	0	50	N	30	10	E	1098	1

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Moroto	(Moroto FR)	Karamoja	Uganda	2	33	N	34	39	E	1364	2
Moroto, Mt	(Moroto FR)	Karamoja	Uganda	2	33	N	34	44	E	1120-3084	2
Moruita		Karamoja	Uganda	1	54	N	34	45	E	1410	1
Moyo		Nile	Uganda	3	39	N	31	42	E	922	2
Moyo, 2 kms W		Nile	Uganda	3	39	N	31	41	E		11
Moyo, 10 mi se		Nile	Uganda								11
Moyo, 16 kms east	vicinity, Otzi Forest	Nile	Uganda								11
Mpanga Forest	Mbanga										
	(Mpanga FR)	Central	Uganda	0	11	N	32	16	E		2
Mubende		North Buganda	Uganda	0	35	N	31	23	E	1323	2
Mubuku Valley	(RMNP)	Western	Uganda							2135-3053	2
Mubuku Valley	Mihunga (RMNP)	Western	Uganda	0	22	N	30	0	E	1524	26
Mubwindi	see Bwindi (BINP)										
Mubwindi											
Swamp	(BINP)	Southern	Uganda	1	4	S	29	44	E	2070	3
Muhavura, Mt	(MGNP)	Southern	Uganda	1	22	S	29	39	E	2680	3
Mujuzi FR		South Buganda	Uganda	0	35	S	31	47	E		1
Mulanda	Mulande	Eastern	Uganda	0	42	N	34	0	E	1133	1
Mulema		Southern	Uganda	0	56	S	30	56	E	1650	20
Munterme		Western	Uganda	1	19	N	31	10	E	1080	1
Murchison Falls NP	Kabalega, hdqtrts	Western	Uganda	2	15	N	31	50	E		1
Mutanda, Lake		Southern	Uganda	1	12	S	29	40	E		2
Mwana Island		South Buganda	Uganda	0	44	S	32	16	E		1
Mwela	(Bugoma FR)	Western	Uganda	1	16	N	31	0	E	1158	7
Mweya	(QENP)	Western	Uganda	0	11	S	29	54	E	803	2
Nabeya	see Nyabyeya								E		
Nabilatuk	Nabilituk	Karamoja	Uganda	2	3	N	34	35	E	1176	2
Naboa	Nabea	Eastern	Uganda	1	3	N	34	1	E	1098	1
Nabugabo, Lake		South Buganda	Uganda	0	22	S	31	53	E	1200	2
Nabumali		Eastern	Uganda	0	59	N	34	13	E	1268	2
Ngongera	Ngongera	Eastern	Uganda	0	46	N	34	2	E	1071	21
Naitakwai	Naitakwai	Karamoja	Uganda	2	33	N	34	38	E	1320	1
Nakasajja		North Buganda	Uganda	0	29	N	32	41	E	1109	1
Nakasongola-Bombo Rd		North Buganda	Uganda	1	0	N	32	27	E	1079	11
Nakavuggo	Nakabugo?, Nakabugu?	Busoga	Uganda	0	56	N	32	59	E	1137	1,27
Nakiloro		Karamoja	Uganda	2	37	N	34	44	E	1574	2
Nakitoma		North Buganda	Uganda	1	32	N	32	6	E	1063	1
Nakivali, Lake		Southern	Uganda	0	47	S	30	53	E	1310	2
Namagunga		North Buganda	Uganda	0	23	N	32	53	E	1193	1
Namaiba		North Buganda	Uganda	0	18	N	32	47	E		1
Namalala FR	Namalala (Sango Bay FR)	South Buganda	Uganda	0	53	S	31	40	E		1
Namalere, 8 mi n Kampala	see Namulere	Central	Uganda	0	26	N	32	35	E		1,21
Namasagali	Namagasali	Busoga	Uganda	1	1	N	32	57	E	1040	1
Namirembe		Central	Uganda	0	19	N	32	34	E		1
Namulere, 8 mi n Kampala	Namalere	Central	Uganda	0	26	N	32	35	E		1
Namulusi Island		Central	Uganda	0	10	N	32	38	E		28
Nandi	"Uganda"		Kenya	0	11	S	35	28	E		5
Naitakwai	see Naitakwe									1320	
Ndeke		Southern	Uganda	0	17	S	30	6	E	1401	1
Nebbi		Nile	Uganda	2	30	N	31	6	E	1029	2
Ngamba Island		North Buganda	Uganda	0	6	S	32	39	E	1132	1

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Ngogo	(KFNP)	Western	Uganda	0	31	N	30	25	E	1350	10
Ngongera, 14 mi W Tororo	Ngongera, Ngongere	Eastern	Uganda	0	46	N	34	2	E	1071	21
Ngora rest house	Teso	Eastern	Uganda	1	30	N	33	45	E	1077	2
Ngoto Swamp Nile	(BINP) Province	Southern Nile	Uganda	0	54	S	29	44	E	1500	3
Nkozi Hospital		Central	Uganda	0	2	N	32	3	E		39
Nsadzi Island		North Buganda	Uganda	0	5	S	32	36	E	1217	1
Ntandi	(Bwamba FR)	Western	Uganda	0	48	N	30	9	E	701	1
Nteko Parish	(BINP)	Southern	Uganda	1	2	S	29	37	E	1600	3
Ntoroko, 15 miles S of Nyabirongo		Western	Uganda	0	49	N	30	33	E	548	1,11
Nyabirongo		Western	Uganda	0	4	N	29	53	E	1205	1
Nyabitaba	(RMNP)	Western	Uganda	0	22	N	29	58	E	2670	3
Nyabyeya Forestry School	Nabeya, Nabeca? (Budongo FR)	Western	Uganda	1	41	N	31	32	E	1100	1
Nyalasanji	Nyalushanje, Nalasangani, Nyalusanje	Southern	Uganda	0	59	S	29	58	E	1670	1
Nyamagasami R	Nyamugasani, Nyamagasani (RMNP)	Western	Uganda	0	18	N	29	53	E	3960	12
Nyamileju Rock Shelter	Nyamileju (RMNP)	Western	Uganda	0	23	N	29	57	E	3292	12
Nyemera	Nyimera	Eastern	Uganda	0	37	N	33	58	E	1101	1
Omubiyanja Swamp	Two Pond Swamp (BINP)	Southern	Uganda	0	59	S	29	38	E	1850	3
Ongino		Eastern	Uganda	1	33	N	33	59	E	1090	2
Opoka	see Apoka		Uganda								
Orze, Mt.	(Otzi FR)	Nile	Uganda	3	37	N	31	51	E	1500	1
Pader	Palwo	Northern	Uganda	2	49	N	33	7	E	1037	1
Paicho		Northern	Uganda	2	54	N	32	27	E	1000	1
Pajule	Fadjulli	Northern	Uganda	2	58	N	32	56	E	999	1
Paraa	(MFNP)	Northern	Uganda	2	18	N	31	35	E	689	1
Piswa		Eastern	Uganda	1	19	N	34	30	E		29
Port Alice	Entebbe	Central	Uganda	0	3	N	32	28	E	1132	12
Queen Elizabeth N.P.	Rwenzori NP (QENP)	Southern Nile	Uganda	0	15	S	30	0	E	850	1
Rhino Camp		Nile	Uganda	2	58	N	31	24	E	607	2
Rongai			Kenya	0	10	S	35	52	E	1911	5
Ruanda-oweru		Southern	Uganda	1	15	S	29	44	E		9
Rugangi		Southern	Uganda	0	9	S	30	50	E		1
Ruhija	Luhiza, Ruhiza (BINP)	Southern	Uganda	1	2	S	29	45	E	2350	3
Rumuruti			Kenya	0	16	N	36	32	E	1890	5
Ruwenzori FR	(RMNP)	Western	Uganda	0	25	N	30	0	E		1
Ruwenzori NP	see QENP	Western	Uganda	0	15	S	30	0	E		1
Ruwenzori, East	Mubuku Camp (RMNP)	Western	Uganda	0	22	N	30	1	E	1525	2
Ruwenzori, Southeast	Mokia, Muhokya River	Western	Uganda	0	6	N	30	4	E	1040	2
Rwanasenge	(Bwamba FR)	Western	Uganda	1	4	N	30	15	E	671	7
Sabei	Sebei, Save, Kapchorwa	Eastern	Uganda	1	24	N	34	27	E	1895?	1
Sabinio Volcano	(MGNP)	Southern	Uganda	1	23	S	29	35	E		1
Sabinio/ Mgahinga	Gahinga (MGNP)	Southern	Uganda	1	23	S	29	37	E	2591	3
Sambiye R		Western	Uganda	2	3	N	31	45	E		1
Sango Bay Forest	Namalala, Tero (Malabigambo FR)	South Buganda	Uganda	0	53	S	31	40	E	1134	1

Specific 1	Supplement*	Province	Country	Lat °	Lat''	N/S	long'	long	E/W	Elev.	Ref.
Sebei	Save, Savi,										
	Kapchorwa	Eastern	Uganda	1	24	N	34	27	E	1895?	1
Semliki Flats	Semliki Valley (Semliki FR)	Western	Uganda	0	49	N	30	4	E	700	1
Sempaya		Western	Uganda	0	51	N	30	11	E	1185	1
Semuganja Island		South Buganda	Uganda	0	19	S	32	22	E		1
Serere		Eastern	Uganda	1	31	N	33	26	E	1066	2
Sese Islands	Sesse	South Buganda	Uganda	0	20	S	32	20	E	1132	1
Shanwa	Shandwa		Tanzania	3	10	S	33	46	E	1352	30
Sipi		Eastern	Uganda	1	20	n	34	19	E	1822	34
Sonso R.		Western	Uganda	1	53	N	31	24	E	1253	1
Sore	5 miles from Kapchorwa	Eastern	Uganda	1	24	N	34	27	E		24
Soroti		Eastern	Uganda	1	44	N	33	36	E	1179	2
Soweh Island	Sowe	Central	Uganda	0	10	N	32	39	E	1129	1
Ssio Bay	Sio	Eastern	Uganda	0	14	N	34	1	E	1140	1
Stuhlmann Pass, N and above	(RMNP)	Western	Uganda	0	24	N	29	53	E	4330	12
Sukulu	Sakula	Eastern	Uganda	0	40	N	34	10	E	1217	1
Terinyi Camp	Bukedi Dist	Eastern	Uganda	1	0	N	33	46	E	1084	1
Teso	former District	Eastern	Uganda	1	40	N	33	30	E		1
Thoro	Toro?	Western	Uganda	0	30	N	30	30	E		1
Tonia	Tonya	Western	Uganda	1	35	N	31	5	E	647	1
Torit			Sudan	4	27	N	32	31	E	829	5
Toro Dist		Western	Uganda	0	30	N	30	30	E		1
Toro Game Reserve	(Toro GR)	Western	Uganda	1	5	N	30	25	E		1
Tororo		Eastern	Uganda	0	41	N	34	10	E	1182	2
Tororo, 64 kms sw		Busoga	Uganda								11
Ugaya Island	see Bugaya	North Buganda	Uganda								
Victoria Nile R	Jinja to Lake Kyoga to Lake Albert		Uganda								
Vumba Island		Busoga	Uganda	0	2	N	33	38	E	1134	1
Wadelai		Nile	Uganda	2	42	N	31	27	E	615	2
Wasa River	Dorwa (KFNFP)	Western	Uganda	0	50	N	30	18	E	1046	31
Wati, Mt.	Watti	Nile	Uganda	3	13	N	31	2	E		1
Yumbe		Nile	Uganda	3	28	N	31	15	E	917	2
Zika Forest	(Zika FR)	Central	Uganda	0	10	N	32	28	E		2
Zoka F.R.		Nile	Uganda	3	14	N	31	35	E		1

* 'Supplement' column refers to alternate spelling or as a modifier.
Elevations (Elev.) mostly from References.